

In the Claims:

Please amend the claims as follows:

1. (currently amended) A method for communicating data in a time division multiple access system where the data (~~PL, RF~~) is transmitted wirelessly between stations (~~MS1-MS6; BS1-BS3~~) in time slots (~~s(i)~~), the time slots (~~s(i)~~) being organized in frames (~~F(i)~~) of a repeating frame structure (~~F1, F2, F3~~), the stations (~~MS1-MS6; BS1-BS3~~) selecting time slots (~~s(i)~~) for transmission of data (~~PL, RF~~) according to a self organizing transmission algorithm which allows a first station (~~MS1~~) to reuse a time slot that is allocated to a second station (~~MS2-MS6, BS2, BS3~~), the method ~~involving~~ comprising:

transmitting an addressed message ( $M^{M1}_{Addr}$ ) from a first base station (~~BS1~~) to a mobile station (~~MS1~~),

transmitting, in response to the addressed message ( $M^{M1}_{Addr}$ ), an acknowledgement message ( $Aek^{M1}_{B1}$ ) from the mobile station (~~MS1~~), and

repeating the transmission of the addressed message ( $M^{M1}_{Addr}$ ) from the first base station (~~BS1~~) to the mobile station (~~MS1~~) until either a message handling entity (~~MHE~~) being responsible for the transmission of the addressed message ( $M^{M1}_{Addr}$ ) has received the acknowledgement message ( $Aek^{M1}_{B1}$ ) or a maximum number ( $n_{max}$ ) of retransmissions has been performed, **characterized by**

receiving the acknowledgement message ( $Aek^{M1}_{B1}$ ) in a second base station (~~BS2~~),

forwarding the acknowledgement message ( $Aek^{M1}_{B1}$ ) from the second base station (~~BS2~~) to the message handling entity (~~MHE~~), the message handling entity (~~MHE~~) being connected to a network (~~N~~) to which both the first base station (~~BS1~~) and the second base station (~~BS2~~) are connected, either directly or via at least one intermediate node, and

receiving the acknowledgement message ( $Ack^{M1}_{B1}$ ) in the message handling entity (~~MHE~~) via the network (~~N~~).

2. (currently amended) A method according to claim 1, ~~characterized by further comprising~~ forwarding the acknowledgement message ( $Ack^{M1}_{B1}$ ) via the network (~~N~~) to the message handling entity (~~MHE~~) within the first base station (~~BS1~~).

3. (currently amended) A method according to claim 1, ~~characterized by further comprising~~ forwarding the acknowledgement message ( $Ack^{M1}_{B1}$ ) via the network (~~N~~) to a node in the network (~~N~~) which is separated from the first base station (~~BS1~~).

4. (currently amended) A method according to ~~any one of the preceding claims,~~ ~~characterized by claim 1, wherein~~ the self-organizing transmission algorithm permits only ~~permitting~~ the first station (~~MS1~~) to reuse a time slot ( $s(i)$ ) allocated to a base station (~~BS2, BS3~~) if the base station (~~BS2, BS3~~) is located outside a threshold distance ( $D_{th}$ ) from the first station (~~MS1~~).

5. (currently amended) A method according to claim 4, ~~characterized by wherein~~ the self-organizing transmission algorithm ~~permitting~~ permits the first station (~~MS1~~) to reuse a time slot ( $s(i)$ ) allocated to a mobile station (~~MS2-MS6~~) that is located at any distance from the first station (~~MS1~~).

6. (currently amended) A method according to ~~any one of the claims 4 or 5,~~ ~~characterized by claim 1, wherein~~ the first station (~~MS1~~) ~~being is~~ a mobile station.

7. (currently amended) A computer program directly loadable into the internal memory of a digital computer, comprising software for accomplishing the steps of ~~any of the claims 1-6~~ claim 1 when said program is run on a computer.

8. (currently amended) A computer readable medium, having a program recorded thereon, where the program is to make a computer accomplish the steps of ~~any of the claims 1—6 recited in claim 1.~~

9. (currently amended) A message handling entity (~~MHE~~) for controlling data communication between at least one base station (~~BS1, BS2~~) and at least one mobile station (~~MS1-MS4~~) in a time division multiple access system where the data is transmitted wirelessly between the stations (~~MS1-MS6; BS1-BS3~~) in time slots ( $s(i)$ ), the time slots ( $s(i)$ ) are organized in frames ( $F(i)$ ) of a repeating frame structure ( $F_1, F_2, F_3$ ), the stations (~~MS1-MS6; BS1-BS3~~) select time slots ( $s(i)$ ) for transmission of data (~~PL, RF~~) according to a self-organizing transmission algorithm which allows a first station (~~MS1~~) to reuse a time slot that is allocated to a second station (~~MS2-MS6, BS2, BS3~~), comprising:

a memory area (~~850~~) adapted to hold status information pertaining to an addressed message ( $M^{M+}_{\text{Addr}}$ ) sent from a first base station (~~BS1~~) to a particular mobile station (~~MS1~~),  
an interface (~~860~~) towards a network (~~N~~) adapted to

send a control message ( $C^M_{\text{MS1}}$ ) ordering the first base station (~~BS1~~) to transmit an addressed message ( $M^{M+}_{\text{Addr}}$ ) to the mobile station (~~MS1~~),

receive an acknowledgement message ( $Aek^{M+}_{\text{B1}}$ ) from a second base station (~~BS2~~), the acknowledgement message ( $Aek^{M+}_{\text{B1}}$ ) having been generated by the mobile station (~~MS1~~) in response to the addressed message ( $M^{M+}_{\text{Addr}}$ ) and sent to the second base station (~~BS2~~), and

forward the acknowledgement message ( $Aek^{M+}_{\text{B1}}$ ) for

processing in the message handling entity (~~MHE~~), and a central unit (~~840~~) adapted to

order retransmission of the addressed message ( $M^{M+}_{\text{Addr}}$ ) from the first base station (~~BS1~~), if after a pre-determined interval ( $T'_{\text{Ret}}$ ) from the transmission of the addressed message ( $M^{M+}_{\text{Addr}}$ ), the status information remains intact in the memory area (~~850~~),

order repeated retransmission a maximum number of times ( $n_{\text{max}}$ ), and

receive the acknowledgement message ( $Aek^{M+}_{\text{B1}}$ ), and in response thereto, clear the status information in the memory area (~~850~~).

10. (currently amended) A base station (~~BS1~~) for communicating data with at least one other station (~~MS1-MS4~~) in a time division multiple access system where the data is transmitted wirelessly between the stations (~~MS1-MS6; BS1-BS3~~) in time slots ( $s(i)$ ), the time slots ( $s(i)$ ) are organized in frames ( $F(i)$ ) of a repeating frame structure ( $F_1, F_2, F_3$ ), the stations (~~MS1-MS6; BS1-BS3~~) select time slots ( $s(i)$ ) for transmission of data (~~PL, RF~~) according to a self-organizing transmission algorithm which allows a first station (~~MS1~~) to reuse a time slot that is allocated to a second station (~~MS2-MS6, BS2, BS3~~), comprising

a transmitter (~~1110~~) adapted to transmit an addressed message ( $M^{M+}_{\text{Addr}}$ ) to a mobile station (~~MS1~~),

a memory area (~~1150~~) adapted to hold status information pertaining to the addressed message ( $M^{M+}_{\text{Addr}}$ ),

a receiver (~~1120~~) adapted to

receive an acknowledgement message ( $Aek^{M1}_{B1}$ ) generated by the mobile station (MS1) in response to the addressed message ( $M^{M1}_{Addr}$ ), and

forward the acknowledgement message ( $Aek^{M1}_{B1}$ ) for processing in the base station (BS1), and a central unit (1140) adapted to

retransmit the addressed message ( $M^{M1}_{Addr}$ ), if after a predetermined interval ( $T_{Ret}$ ) from the transmission of the addressed message ( $M^{M1}_{Addr}$ ), the status information remains intact in the memory area (1150), repeat the retransmission a maximum number of times ( $n_{max}$ ), and

receive the acknowledgement message ( $Aek^{M1}_{B1}$ ), and in response thereto, clear the status information in the memory area (1150),

**characterized in that** it comprises: and

an interface (1160) towards a network (N) to which at least one other base station (BS2) is connected, the interface (1160) being adapted to receive acknowledgement messages ( $Aek^{M1}_{B1}$ ) from the at least one other base station (BS2) and forward any such messages to the central unit (1150).

11. (currently amended) A base station (BS1) according to claim 10, **characterized in that** wherein the receiver (1120) is adapted to receive acknowledgement messages ( $Aek^{M4}_{B2}$ ) in respect of at least one other base station (BS2), and the interface (1160) is further adapted to

forward acknowledgement messages ( $Ack^{M4}_{B2}$ ) received in respect of the at least one other base station ( $BS2$ ) to the respective at least one other base station ( $BS2$ ) via the network ( $N$ ).